4D106 0000642660

DATE 7/8/93			
TO P.J. LAURIN	DEPT. ERM	BLDG. 080	
FROM G.A. WETHERBEE	DEPT. EPM/SWD	BLDG. 080	
		PHONE 8685	

ROCKY FLATS PLANT

NAH 71846

MEMORANDA

"SAY IT IN WRITING"

MESSAGE:

The Technical Memorandum Number 1 for the Phase I RCRA Facility Investigation (RFI) for Operable Unit Number 6 (OU6) at the Rocky Flats Plant (RFP) calls for the collection of aquatic toxicity samples to accompany water-quality samples and stream discharge measurements for one storm runoff event. On May 17, 1993, Woodward-Clyde Federal Services (WCFS) conducted the OU6 stormwater sampling event under the direction of myself and Mr. Neil Holsteen (EG&G). Mr. Holsteen and I measured stream discharge while the WCFS crew collected and containerized stream water for shipment to off-site laboratories for chemical analysis. The sampling event was conducted most efficiently; so we thought. We later learned that through miscommunication on the part of WCFS, the aquatic toxicity samples were not collected. This was a very serious error on the part of WCFS because the Technical Memorandum specifically calls for this analysis, and the toxicity testing was a major topic of discussion at each meeting held in preparation for the stormwater sampling event. Due to this unfortunate outcome, I have prepared the following strategy for obtaining water-quality samples, toxicity samples, and stream discharge measurements for the OU6 Phase I RFI.

The RFP has an operational network of 21 continuously recording stream gages equipped with automatic water samplers (Figure 1). Flow meters at each station are electronically linked to the automatic samplers to initiate sampling storm runoff when a pre-specified increase in stream stage is measured by the flow meter. Currently, there are six operational stations in OU6 that are enabled to sample storm runoff: GS03, GS09, GS10, GS11, GS12, and GS13. Three additional stations will be added to this network in OU6 when new flow monitoring equipment is delivered, and delivery is expected before August 1, 1993. The additional stations are: SW022, SW093, and SW118. Once these stations are upgraded with new flow meters, the OU6 network will be ready to sample a storm event at six locations upstream from the RFP A- and B-series detention ponds.

As has been observed in OU5, the likelihood of the occurrence of a storm event large enough to produce runoff at each station and trigger each automatic sampler is low. However, samples for toxicity and water-quality will be obtained at the OU6 stations for the Event-Related Surface Water Monitoring Program, and these data could be used for the OU6 RFI report. The analyte suite for this program is shown in Table 1.

It should be noted that the automatic samplers cannot obtain representative samples for organic constituents because the sampler draws water from the stream using negative pressure created by a peristaltic pump, and the water then travels through tygon tubing


000064260

on its way to the sample container. Samples for toxicity, anions, water-quality parameters (i.e. pH, conductivity, alkalinity, etc.), metals, suspended sediment, and radionuclides will be obtained and submitted to the Building 881 Laboratory and the Seacrest Group for analysis. If personnel are available for manual sampling of the storm event, then it will be possible to obtain samples for volatile and semi-volatile organic analytes as well as other non-conservative constituents such as nutrients.

The Building 881 Laboratory will use different analytical procedures for sample analysis than those prescribed by the OU6 Technical Memorandum Number 1. However, the Building 881 Laboratory will produce a validateable analytical report, and the laboratory is evaluated in the USEPA Contract Laboratory Program and performs exceptionally well in the program. There should be no issue of comparing different types of data because the data for each synoptic sampling event should be analyzed independent of data for other sampling events. As long as the methodology is consistent for each sampling event, there should be no difficulty in the analysis of the data.

It should be noted that stormwater samples at RFP are very difficult to obtain using the automated equipment. The stage that is programmed into the flow meters to initiate sampling is based on the hydrographer's best guess of what a storm event might produce given current hydrologic conditions. Many storms pass over RFP that do not trigger the automatic samplers because the stream stage never quite reaches the stage programmed into the flow meter. Also, lightening can produce power surges that knock out the power for the meters and samplers. Equipment in the field is not as reliable as humans, and several equipment malfunctions have maligned the OU5 effort. In other words, the storm event sampling can be done, but the odds of obtaining samples synoptically at each gaging station in OU6 are not favorable.

No additional funding will be required from OU6 as the SWD has already funded the operation of the RFP Event-Related Surface-Water Monitoring Program, and arrangements for analytical work at Building 881 and at Seacrest have already been made. I would welcome the opportunity to discuss this strategy with you, DOE,RFO, USEPA, and CDH. Please consider this remedy to the current OU6 RFI situation, and keep me informed of any developments.

7/8/93